Expres Mail No. EV335610765US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:	Orest W. Blaschuk et al.
Group Art Unit:	1631
Application No:	10/006,869
Filed:	December 3, 2001
For:	COMPOUNDS AND METHODS FOR MODULATING NONCLASSICAL CADHERIN-MEDIATED FUNCTIONS
Examiner:	Marjorie A. Moran
Docket No.:	100086.407C7

DECLARATION OF OREST W. BLASCHUK, Ph.D.

Commissioner for Patents
Washington, D.C. 20231

The undersigned, Dr. Orest Blaschuk, hereby declares:

1. I am the Chief Scientist and co-founder of Adherex Technologies Incorporated, the assignee of the subject application. I am also an Associate Professor in both the Department of Urology and the Department of Anatomy and Cell Biology at McGill University. I have co-authored over 50 scientific publications in peer-reviewed journals and am a named inventor on over 20 issued U.S. Patents, the vast majority of these publications and patents relating to the area of cell adhesion molecules. My *Curriculum Vitae* along with a list of publications and patents is provided as Attachment A. The following experiments were carried out under my direction.

2. In a first experiment, human umbilical vein endothelial cells (HUVEC) were obtained from Cambrex Bio Science Walkersville Inc. (Walkersville, MD). HUVEC were cultured in endothelial growth media (EGM-2) supplemented with 2% FBS, hEGF, hydrocortizone, Gentamicin, Amphotericin-B, VEGF, hFGF-B, R^3-IGF-1, ascorbic acid and

heparin. The cells were kept in a humidified atmosphere (5% CO_2) at 37°C. All culture reagents were purchased from Cambrex Bio Science Walkersville Inc. (Walkersville, MD). Cells were exposed to cyclic peptides ADH142 (Ac-CDAEC-OH) or ADH191 (Ac-CDAEC-NH_2) at 1 mg / ml. for 24 hr, and then fixed with 4% paraformaldehyde, followed by 3 washes with phosphate buffered saline (PBS) and staining with hematoxylin. Cells were viewed under light microscopy at 400x. The cyclic peptides ADH142 and ADH191 caused a perturbation of cell-cell contacts in the monolayer. The cells retracted from one another, and became spindle shaped with long processes. Large holes became apparent in the monolayer indicating a disruption of cell-cell adhesion (Figures 1 and 2).

3. In another experiment, dermal human adult microvascular endothelial cells (HMVEC-d) cells were obtained from Cambrex Bio Science Walkersville Inc. (Walkersville, MD). HMVEC-d were cultured in endothelial cell media (EGM-2MV) supplemented with 5% FBS, hEGF, hydrocortizone, Gentamicin, Amphtotericin-B, VEGF, hFGF-B, R^3-IGF-1 and ascorbic acid. The cells were kept in a humidified atmosphere (5% CO_2) at 37°C. All culture reagents were purchased from Cambrex Bio Science Walkersville Inc. (Walkersville, MD). Cells were exposed to cyclic peptides ADH142 (Ac-CDAEC-OH) or ADH191 (Ac-CDAEC-NH2) at 1 mg / ml. for 24 hr, and then fixed with 4% paraformaldehyde, followed by 3 washes with phosphate buffered saline (PBS) and staining with hematoxylin. Cells were viewed under light microscopy at 400x. The cyclic peptides ADH142 and ADH191 caused a perturbation of cell-cell contacts in the monolayer. The cells retracted from one another and large holes became apparent in the monolayer indicating a disruption of cell-cell adhesion (Figures 3 and 4).

4. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful, false statements, and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Orest W. Blaschuk, Ph.D.

Nov. 1, 2004
Date

Express Mail No. EV335610765US

CURRICULUM VITAE

Date of Last Revision: July 6, 2004

A. IDENTIFICATION

Name:	Orest William Blaschuk
Office Address:	Urology Research Laboratories, Room H6.15 Royal Victoria Hospital 687 Pine Avenue West Montreal, Quebec H3A 1A1
Home Address:	Apartment 1520 4998 De Maisonneuve West Westmount, Quebec H3Z 1N2
Telephone:	514-489-9340
FAX:	514-489-5242
Mobile phone:	514-838-5236
E-mail:	Orest.Blaschuk@mcgill.ca
Date of Birth:	October 20, 1954
Citizenship:	Canadian
Place of Birth:	Winnipeg, Manitoba, Canada

B. EDUCATION

University of Winnipeg	Winnipeg, Manitoba	B.Sc.	1975	Chemistry
University of Manitoba	Winnipeg, Manitoba	M.Sc.	1979	Biochemistry
University of Toronto	Toronto, Ontario	Ph.D.	1984	Biochemistry

TITLE OF MASTER THESIS: Studies on Glycosidases in Concanavalin A-Sensitive and Resistant Chinese Hamster Ovary Cells Grown in Tissue Culture (May, 1979), University of Manitoba, Winnipeg.
Supervisor: Dr. J.C. Jamieson

TITLE OF DOCTORAL THESIS: Purification and Characterization of a Cell Aggregating Factor (Clusterin) from Ram Rete Testis Fluid (June, 1984), University of Toronto, Toronto.
Supervisor: Dr. I.B. Fritz

Post-Doctoral Research Training:
July, 1984-1986, Department of Biology, Princeton University, Supervisor: Dr. M.S. Steinberg

C. APPOINTMENTS

Current Positions:

Chief Scientist and Co-founder
Adherex Technologies Incorporated
Ottawa, Ontario
Appointed September 18, 1998
Adherex is listed on the Toronto Stock Exchange (Symbol AHX). The IPO was on June 5, 2001.

Associate Professor
Division of Urology
Department of Surgery
McGill University
Appointed June 1, 1993
(unpaid leave of absence taken April 1, 1999 – March 31, 2000)

Associate Professor
Department of Anatomy & Cell Biology
McGill University
Appointed June 1, 1993

Former Positions:

Chief Scientist and Co-founder
Adherex Incorporated
Westmount, Quebec
Appointed September 3, 1996 – April 30, 2001
(Adherex Inc. was amalgamated with Adherex Technolgies Inc. on April 30, 2001)

Assistant Professor
Division of Urology
Department of Surgery
McGill University
Appointed January 1, 1987 - May 31, 1993

Assistant Professor
Department of Anatomy
McGill University
Appointed January 1, 1990 - May 31, 1993

D. SPECIAL HONORS, AWARDS, RECOGNITION

Schools Science Fair Entrance Scholarship	U. of Winnipeg	1972-1973
Chemistry Department Scholarship	U. of Winnipeg	1973-1974
Winnipeg RH Institute Proficiency Scholarship	U. of Winnipeg	1973-1974
University of Manitoba Fellowship	U. of Manitoba	1978-1979
Canadian Medical Research Council Studentship	U. of Toronto	1981-1984
Canadian Medical Research Council Fellowship	Princeton U.	1985-1986
Best Basic Science Paper Award	Canadian Fertlity and Andrology Society	1989
Best Basic Science Poster Award	Canadian Fertlity and Andrology Society	1993
Listed in *American Men & Women of Science*		1994
Murray L. Barr Junior Scientist Award	Canadian Association of Anatomists	1995
Applied Research Award	Ottawa Life Sciences Council	2000

E. RESEARCH

1. Research Activities

I am engaged in studies concerning the structure, function and regulation of a family of cell adhesion molecules, known as the cadherins.

F. PUBLICATIONS (*Indicates a member of my laboratory group)

a. Articles in peer-reviewed journals:

i. **Blaschuk, O.W.**, J.C. Jamieson and J.A. Wright. 1980. Studies on hexosaminidase forms in Chinese hamster ovary cells. Enzyme 25: 161-169.

ii. **Blaschuk, O.W.**, J.C. Jamieson and J.A. Wright. 1980. Changes in glycosidase activities in concanavalin A-resistant and sensitive mammalian cells. Int. J. Biochem. 12: 635-638.

iii. **Blaschuk, O.W.**, J.C. Jamieson and J.A. Wright. 1980. Studies on the hexosaminidases from concanavalin A-resistant and sensitive cell lines. A model system for the study of secretion and uptake of lysosomal enzymes. Exp. Cell Res. 130: 451-455.

iv. **Blaschuk, O.W.**, J.C. Jamieson and J.C. Eales. 1982. Properties of hexosaminidases in cell-free extracts of rainbow trout livers and effects of thyroid hormones. Comp. Biochem. Physiol. 73B: 729-734.

v. Fritz, I.B., K. Burdzy, B. Setchell and **O.W. Blaschuk.** 1983. Ram rete testis fluid contains a protein (clusterin) which influences cell-cell interactions in vitro. Biol. Reprod. 28: 1173-1188.

vi. **Blaschuk, O.W.**, K. Burdzy and I.B. Fritz. 1983. Purification and characterization of a cell-aggregating factor (clusterin), the major glycoprotein in ram rete testis fluid. J. Biol. Chem. 258: 7714-7720.

vii. **Blaschuk, O.W.** and I.B. Fritz. 1984. Isoelectric forms of clusterin isolated from ram rete testis fluid and from secretions of primary cultures of ram and rat Sertoli cell-enriched preparations. Can. J. Biochem. Cell Biol. 62: 456-461.

viii. **Blaschuk, O.W.**, R.L. Manteuffel and M.S. Steinberg. 1986. Purification of desmoglein 2. A method for the preparation and fractionation of desmosomal components. Biochem. Biophys. Acta 883: 426-431.

ix. **Blaschuk, O.W.** and R. Farookhi. 1989. Estradiol stimulates cadherin expression in rat granulosa cells. Develop. Biol. 136: 564-567.

x. **Blaschuk, O.W.**, Y. Pouliot and P.C. Holland. 1990. Identification of a conserved region common to cadherins and influenza strain A hemagglutinins. J. Mol. Biol. 211: 679-682.

xi. **Blaschuk, O.W.**, R. Sullivan, S. David and Y. Pouliot. 1990. Identification of a cadherin cell adhesion recognition sequence. Develop. Biol. 139: 227-229.

xii. Pouliot, Y., P.C. Holland and **O.W. Blaschuk.** 1990. Developmental regulation of a cadherin during the differentiation of skeletal myoblasts. Develop. Biol. 141: 292-298.

xiii. Chuah, M.I., S. David and **O.W. Blaschuk.** 1991. Differentiation and survival of olfactory epithelial neurons in dissociated cell culture. Develop. Brain Rés. 60: 123-132.

xiv. *Chen, B., **O.W. Blaschuk** and B.F. Hales. 1991. Cadherin mRNAs during rat embryo development in vivo and in vitro. Teratology 44: 581-590.

xv. Coutifaris, C., L.-C. Kao, H.M. Sehdev, U. Chin, G.O. Babalola, **O.W. Blaschuk** and J.F. Strauss, III. 1991. E-cadherin expression during the differentiation of human trophoblasts. Development 113: 767-777.

xvi. *Cyr, D.G., L. Hermo, **O.W. Blaschuk** and B. Robaire. 1992. Distribution and regulation of epithelial cadherin messenger ribonucleic acid and immunocytochemical localization of epithelial cadherin in the rat epididymis. Endocrinology 130: 353-363.

xvii. *Cyr, D.G., **O.W. Blaschuk** and B. Robaire. 1992. Identification and developmental regulation of cadherin messenger ribonucleic acids in the rat testis. Endocrinology 131: 139-145.

xviii. Byers, S., E. Amaya, *S. Munro and **O.W. Blaschuk**. 1992. Fibroblast growth factor receptors contain a conserved HAV region common to cadherins and influenza strain A hemagglutinins: A role in protein-protein interactions? Develop. Biol. 152: 411-414.

xix. *MacCalman, C.D., *N. Bardeesy, P.C. Holland and **O.W. Blaschuk**. 1992. Noncoordinate developmental regulation of N-cadherin, N-CAM, integrin, and fibronectin mRNA levels during myoblast terminal differentiation. Develop. Dynamics 195: 127-132.

xx. Newton, S.C., **O.W. Blaschuk** and C.F. Millette. 1993. N-cadherin mediates Sertoli cell- spermatogenic cell adhesion. Develop. Dynamics 197: 1-13.

xxi. Alexander, J.S., **O.W. Blaschuk** and F.R. Haselton. 1993. An N-cadherin-like protein contributes to solute barrier maintenance in cultured endothelium. J. Cell Physiol. 156: 610-618.

xxii. *MacCalman, C.D., D.A. O'Brien, S.W. Byers and **O.W. Blaschuk**. 1993. N-cadherin expression in the seminiferous epithelium of the mouse testis. Endocrine J. 1: 519-525.

xxiii. Byers, S.W., S. Sujarit, B. Jegou, S. Butz, H. Hoschutzky, K. Herrenknecht, *C. MacCalman and **O.W. Blaschuk**. 1994. Cadherins and cadherin associated molecules in the developing and maturing rat testis. Endocrinology 134: 630-639.

xxiv. *MacCalman, C.D. and **O.W. Blaschuk**. 1994. Gonadal steroids regulate N-cadherin mRNA levels in the mouse testis. Endocrine 2 : 157-163.

xxv. *MacCalman, C.D., P. Brodt, *J.D. Doublet, *R. Jednak, M.M. Elhilali, M. Bazinet and **O.W. Blaschuk**. 1994. The loss of E-cadherin mRNA transcripts in rat prostatic tumors is accompanied by increased expression of mRNA transcripts encoding fibronectin and its receptor. Clin. Exp. Metastasis 12: 101-107.

xxvi. *MacCalman, C.D., R. Farookhi and **O.W. Blaschuk**. 1994. Estradiol and progesterone regulate E-cadherin mRNA levels in the mouse uterus. Endocrine 2: 485-490.

xxvii. *MacCalman, C.D., R. Farookhi and **O.W. Blaschuk**. 1994. Estradiol regulates E-cadherin mRNA levels in the surface epithelium of the mouse ovary. Clin. Exp. Metastasis 12: 276-282.

xxviii. *MacCalman, C.D., R. Farookhi and **O.W. Blaschuk**. 1995. Estradiol regulates N-cadherin mRNA levels in the mouse ovary. Developmental Genetics 16: 20-24.

xxix. *Munro, S.B., *I.M. Turner, R. Farookhi, **O.W. Blaschuk** and S. Jothy. 1995. E-cadherin and OB-cadherin mRNA levels in normal human colon and colon carcinoma. Exp. Molec. Pathology 62: 118-122.

xxx. *Munro, S.B., A.J. Duclos, *A.R. Jackson, M.G. Baines and **O.W. Blaschuk**. 1996. Characterization of cadherins expressed by murine thymocytes. Cell. Immunology 169: 309-312.

xxxi. Kerketze K, **O.W. Blaschuk** and R. Farookhi. 1996. Cellular heterogeneity in the membrana granulosa of developing rat follicles: assessment by flow cytometry and lectin binding. Endocrinology 137: 3089-3100.

xxxii. *Munro, S.B. and **O.W. Blaschuk.** 1996. A comprehensive survey of the cadherins expressed in the testes of fetal, immature, and adult mice using the polymerase chain reaction. Biol. Reprod. 55: 822-827.

xxxiii. Farookhi, R., *C.-S. Geng, *C.D. MacCalman and **O.W. Blaschuk**. 1997. Hormonal regulation of N-cadherin mRNA levels in rat granulosa cells. Annals N.Y. Acad. Sci. 816: 165-172.

xxxiv. *MacCalman, C.D., *S. Getsios, R. Farookhi and **O.W. Blaschuk**. 1997. Estrogens potentiate the stimulatory effects of follicle-stimulating hormone on N-cadherin messenger ribonucleic acid levels in cultured mouse Sertoli cells. Endocrinology 138: 41-48.

xxxv. Getsios, S., G.T.C. Chen, M.D. Stephenson, *P. LeClerc, **O.W. Blaschuk** and C.D. MacCalman. 1998. Regulated expression of cadherin-6 and cadherin-11 in the glandular epithelial and stromal cells of the human endometrium. Developmental Dynamics 211: 238-247.

xxxvi. Alexander, J.S., T. Dayton, C. Davis, S. Hill, T.H. Jackson IV, **O. Blaschuk**, *M. Symonds, N. Okayama, C.G. Kevil and S.M. Berney. 1998. Activated T-lymphocytes express occludin, a component of tight junctions. Inflammation 22: 573-582.

xxxvii. Woodward, T.L., M.A. Sia, **O.W. Blaschuk**, J.D. Turner and D.W. Laird. 1998. Fibroblast-epithelial cell heterocellular gap junctional communication is mediated by an intermediate cell type but not by E-cadherin transgene expression. J. Cell Sci. 111: 3529-3539.

xxxviii. Ibrahim, N.M., M.H.T. Troedsson, D.N. Foster, K.J. Loseth, J.A. Farris, **O. Blaschuk** and B.G. Crabo. 1999. Reproductive tract secretions and bull spermatozoa contain different clusterin isoforms that cluster cells and inhibit complement-induced cytololysis. J. Andrology 20: 230-240.

xxxix. Makrigiannakis, A., G. Coukos, M. Christofidou-Solomidou, B.J. Gour, G.L. Radice, **O. Blaschuk** and C. Coutifaris. 1999. N-cadherin mediated human granulosa cell adhesion prevents apoptosis: A role in follicular atresia and luteolysis? Am. J. Pathol. 154: 1391-1406.

xl. Wilby, M.J., E.M. Muir, J. Fok-Seang, B.J. Gour, **O.W. Blaschuk** and J. Fawcett. 1999. N-cadherin inhibits Schwann cell migration on astrocytes. Mol. Cell. Neurosci. 14: 66-84.

xli. Makrigiannakis, A., G. Coukos, **O. Blaschuk** and C. Coutifaris. 2000. Follicular atresia and luteolysis: Evidence of a role for N-cadherin. Annals N.Y. Acad. Sci. 900: 46-55.

xlii. Schnädelbach, O., **O.W. Blaschuk**, *M. Symonds, B.J. Gour, P. Doherty and J.W. Fawcett. 2000. N-cadherin influences migration of oligodendrocytes on astrocyte monolayers. Mol. Cell. Neurosci. 15: 288-302.

xliii. Williams, E., G. Williams, B.J. Gour, **O.W. Blaschuk** and P. Doherty. 2000. A novel family of cyclic peptide antagonists suggest that N-Cadherin specificity is determined by amino acids that flank the HAV motif. J. Biol. Chem. 275: 4007-4012.

xliv. Williams, E., G. Williams, B.J. Gour, **O. Blaschuk** and P. Doherty. 2000. INP, a novel antagonist and candidate specificity determining motif for N-cadherin. Mol. Cell. Neurosci. 15: 456-464.

xlv. Machell, N.H., **O.W. Blaschuk** and R. Farookhi. 2000. Developmental expression and distribution of N- and E-cadherin in the rat ovary. Biol. Reprod. 63: 797-804.

xlvi. Schnädelbach, O., I. Ozen, **O.W. Blaschuk**, B.J. Gour, R.L. Meyer and J.W. Fawcett. 2001. N-cadherin is involved in axon-oligodendrocyte contact and myelination. Mol. Cell. Neurosci. 17: 1084-1093.

xlvii. Fadel, M.P., M. Szewczenko-Pawlikowski, *P. Leclerc, E. Dziak, *J.M. Symonds, **O. Blaschuk**, M. Michalak and M. Opas. 2001. Calreticulin affects {beta}-catenin associated pathways. J. Biol. Chem. 276: 27083-27089.

xlviii. Machell, N.H., **O.W. Blaschuk**, and R. Farookhi. 2002. Expression and localization of P-, K-, and OB-cadherin in the prepubertal rat ovary. Mol. Reprod. Dev. 61: 142-54.

xlix. **Blaschuk, O.W.**, T. Oshima, B.J. Gour, *M. Symonds, J.H. Park, C.G. Kevil, S.D. Trocha, S. Michaud, N. Okayama, J.W. Elrod and J.S. Alexander. 2002. Identification of an occludin cell adhesion recognition sequence. Inflammation 26: 193-198.

l. Feltes, C.M., A. Kudo, **O. Blaschuk** and S.W. Byers. 2002. An alternatively spliced cadherin-11 enhances human breast cancer cell invasion. Cancer Res. 62: 6688-6697.

li. Oshima, T., **O. Blaschuk**, B. Gour,* M. Symonds, J.W. Elrod, M. Sasaki, T.H. Jackson and J.S. Alexander. 2003. Tight junction peptide antagonists enhance neutrophil trans-endothelial chemotaxis. Life Sciences 73: 1729-1740.

lii. Erez, N., E. Zamir, B.J. Gour, **O.W. Blaschuk** and B. Geiger. 2004. Induction of apoptosis in cultured endothelial cells by a cadherin antagonist peptide: involvement of fibroblast growth factor receptor-mediated signalling. Exp. Cell Res. 294: 366-78.

b. Reviews and Book Chapters

i. Fritz, I.B., **O.W. Blaschuk** and K. Burdzy. 1985. Properties of clusterin, a glycoprotein which elicits cell aggregation, and immunochemical determination of levels in ovine tissues. In: Symposium on Gonadal Proteins and Peptides (M.R. Sairam and L.E. Atkinson, eds.). pp. 311-325. World Scientific Publishing Co., Philadelphia.

ii. Steinberg, M.S., H. Shida, G.J. Giudice, M. Shida, N.H. Patel and **O.W. Blaschuk**. 1987. On the Molecular Organization, Diversity and Functions of Desmosomal Proteins. In: Junctional Complexes of Epithelial Cells (S. Clark, ed.). Ciba Found. Symp. 125: 3-25. John Wiley and Sons Ltd., London.

iii. Farookhi, R. and **O.W. Blaschuk**. 1989. E-cadherin May be Invloved in Mediating FSH-Stimulated Responses in Rat Granulosa Cells. In: Growth Factors and the Ovary (A.N. Hirshfield, ed.). pp. 257-266. Plenum Press, New York.

iv. Farookhi, R. and **O.W. Blaschuk**. 1991. Cadherins and Ovarian Follicular Development. In: Signalling Mechanisms and Gene Expression in the Ovary (G. Gibori, ed.). pp. 254-260. Springer-Verlag, New York, NY.

v. Byers, S.W. and **O.W. Blaschuk.** 1992. Epithelial Barriers, Cell-Cell Adhesion and Mucosal Immunity in Male Reproductive Tract Tissues. In: Local Immunity in Reproductive Tract Tissues. pp. 147-159. Cambridge University Press.

vi. Byers, S.W., B. Jegou, *C.D. MacCalman and **O.W. Blaschuk.** 1993. Sertoli Cell Adhesion Molecules and the Collective Organization of the Testis. In: The Sertoli Cell (L.D. Russell and M. Griswold, eds.). pp. 461-476. Cache River Press, Clearwater Fl.

vii. **Blaschuk, O.W.**, *S.B. Munro and R. Farookhi. 1994. E-cadherin, estrogens, and cancer: Is there a connection? The Can. J. Oncology 4: 291-301.

viii. **Blaschuk, O.W.**, *S.B. Munro and R. Farookhi. 1995. Cadherins, steroids and cancer. Endocrine 3: 83-89.

ix. Jothy, S., *S.B. Munro, L. LeDuy, D. McClure and **O.W. Blaschuk**. 1995. Adhesion or anti-adhesion in cancer: what matters more? Cancer Metastasis Rev. 14: 363-376.

x. *Munro, S.B. and **O.W. Blaschuk**. 1996. The Structure, Function, and Regulation of Cadherins. In: Tumor Cell Adhesion and Cancer Invasion (P. Brodt, ed.). pp. 17-34. R.G. Landes Company, Austin TX.

xi. *Rowlands, T.M, *J.M. Symonds, R. Farookhi and **O.W. Blaschuk**. 2000. Cadherins: Crucial regulators of structure and function in reproductive tissues. Reviews in Reproduction. 5: 53-61.

xii. *Rowlands, T.M and **O.W. Blaschuk**. 2000. Function and regulation of cadherins in reproductive tissues. Recent Res. Devel. Endocrinol. 1: 273-305.

xiii. **Blaschuk, O.W.** and *T.M. Rowlands. 2000. Cadherins as modulators of angiogenesis and the structural integrity of blood vessels. Cancer Metastasis Rev. 19: 1-5.

xiv. **Blaschuk, O.W.** and *T.M. Rowlands. 2002. Plasma membrane components of adherens junctions. Mol. Membr. Biol. 19: 75-80.

xv. **Blaschuk, O.W.** and J.M. Symonds. 2003. Synthetic Antiangiogenic Agents. In: Burger's Medicinal Chemistry and Drug Discovery, Sixth Edition, Volume 5: Chemotherapeutic Agents (D.J. Abraham, ed.). pp. 215-222. John Wiley & Sons, Inc., New York NY.

c. Patents:

i.	Title:	Compounds and methods for modulating cell adhesion.
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,031,072
	Date of Patent:	February 29, 2000
ii.	Title:	Compounds and methods for modulating tissue permeability.
	Inventors:	**Orest W. Blaschuk**, J. Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,110,747
	Date of Patent:	August 29, 2000
iii.	Title:	Compounds and methods for modulating cell adhesion.
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,169,071
	Date of Patent:	January 2, 2001
iv.	Title:	Compounds and methods for regulating cell adhesion.
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,203,788
	Date of Patent:	March 20, 2001
v.	Title:	Compounds and methods for modulating neurite outgrowth
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,207,639
	Date of Patent:	March 27, 2001
vi.	Title:	Compounds and methods for modulating tissue permeability
	Inventors:	**Orest W. Blaschuk**, J. Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,248,864
	Date of Patent:	June 19, 2001
vii.	Title:	Compounds and methods for modulating adhesion molecule function
	Inventors:	Patrick Doherty, **Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,277,824
	Date of Patent:	August 21, 2001
viii.	Title:	Compounds and methods for modulating beta-catenin

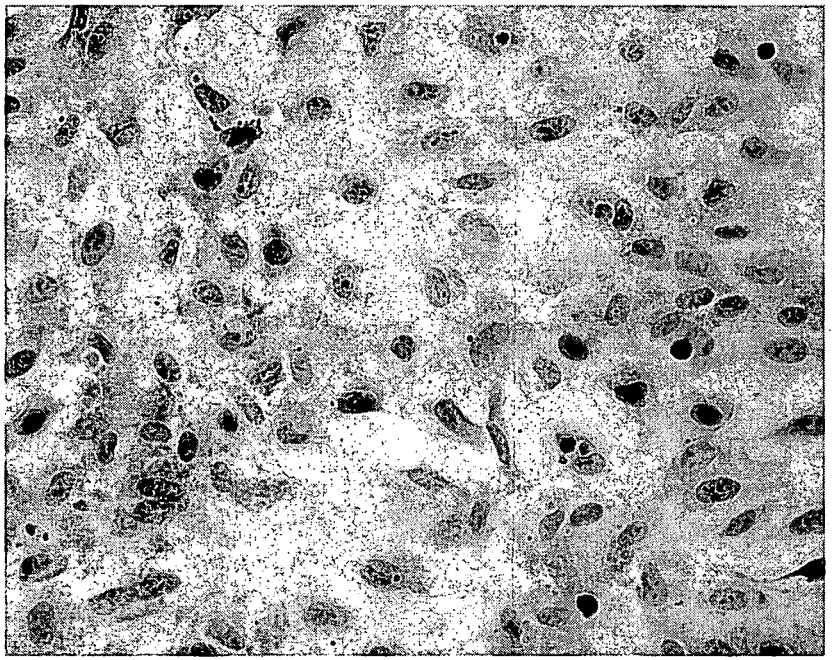
		mediated gene expression
	Inventors:	**Orest W. Blaschuk**, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,303,576
	Date of Patent:	October 16, 2001
ix.	Title:	Compounds and methods for modulating tissue permeability
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,310,177
	Date of Patent:	October 30, 2001
x.	Title:	Compounds and methods for modulating cell adhesion
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,326,352
	Date of Patent:	December 4, 2001
xi.	Title:	Compounds and methods for modulating neurite outgrowth
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,333,307
	Date of Patent:	December 25, 2001
xii.	Title:	Compounds and methods for modulating cell adhesion
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,346,512
	Date of Patent:	February 12, 2002
xiii.	Title:	Compounds and methods for modulating nonclassical cadherin-mediated functions
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,358,920
	Date of Patent:	March 19, 2002
xiv.	Title:	Compounds and methods for modulating junctional adhesion molecule-mediated functions
	Inventors:	**Orest W. Blaschuk,** James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,391,855
	Date of Patent:	May 21, 2002
xv.	Title:	Compounds and methods for cancer therapy
	Inventors:	**Orest W. Blaschuk**, Barbara J. Gour and Riaz Farookhi
	United States Patent Number:	6,417,325
	Date of Patent:	July 9, 2002
xvi.	Title:	Compounds and methods for inhibiting cancer metastasis
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds, Stephen Byers

		and Barbara J. Gour
	United States Patent Number:	6,433,149
	Date of Patent:	August 13, 2002
xvii.	Title:	Compounds and methods for cancer therapy
	Inventors:	**Orest W. Blaschuk**, Barbara J. Gour, Riaz Farookhi and Anmar Ali
	United States Patent Number:	6,465,427
	Date of Patent:	October 15, 2002
xviii.	Title:	Compounds and methods for modulating OB-cadherin mediated cell adhesion
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,472,367
	Date of Patent:	October 29, 2002
xix.	Title:	Compounds and methods for modulating adhesion molecule function
	Inventors:	Patrick Doherty, **Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,472,368
	Date of Patent:	October 29, 2002
xx.	Title:	Compounds and methods for inhibiting the interaction between .alpha.-catenin and .beta.-catenin
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,551,994
	Date of Patent:	April 22, 2003
xxi.	Title:	Compounds and methods for modulating apoptosis
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,562,786
	Date of Patent:	May 13, 2003
xxii.	Title:	Antibody that specifically binds to the cadherin-5 cell adhesion recognition sequence
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,569,996
	Date of Patent:	May 27, 2003
xxiii.	Title:	Compounds and methods for inhibiting cancer metastasis
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,593,297
	Date of Patent:	July 15, 2003

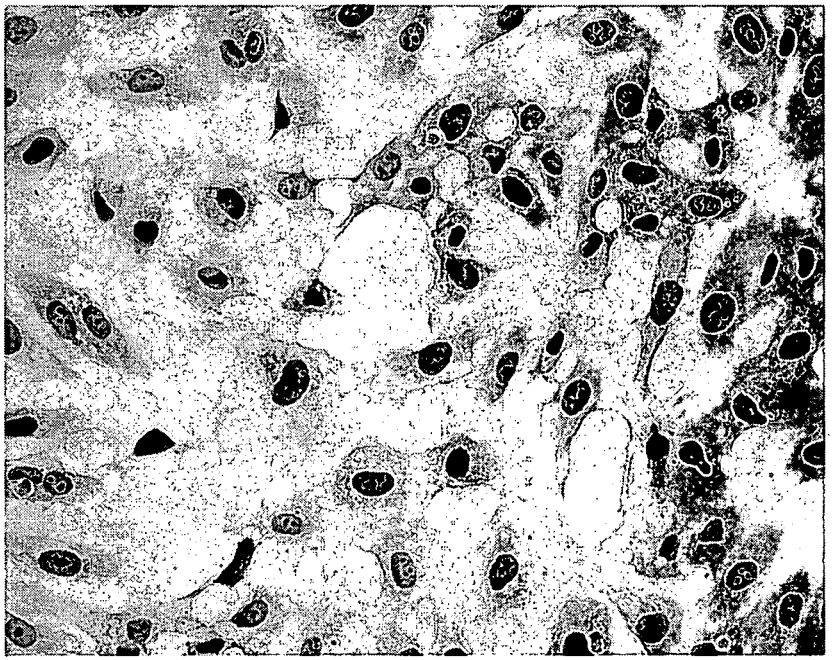
xxiv.	Title:	Compounds and methods for modulating endothelial cell adhesion
	Inventors:	**Orest W. Blaschuk**, Barbara J. Gour, Riaz Farookhi and Anmar Ali
	United States Patent Number:	6,610,821
	Date of Patent:	August 26, 2003
xxv.	Title:	Compounds and methods for modulating desmosomal cadherin-mediated functions
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,638,911
	Date of Patent:	October 28, 2003
xxvi.	Title:	Methods for treating cancer by modulating .beta.-catenin mediated gene expression
	Inventors:	**Orest W. Blaschuk**, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,677,116
	Date of Patent:	January 13, 2004
xxvii.	Title:	Methods for diagnosing and evaluating cancer
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,680,175
	Date of Patent:	January 20, 2004
xxviii.	Title:	Methods for diagnosing and evaluating cancer
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,682,901
	Date of Patent:	January 27, 2004
xxix.	Title:	Compounds and methods for stimulating gene expression and cellular differentiation
	Inventors:	**Orest W. Blaschuk** and Barbara J. Gour
	United States Patent Number:	6,683,048
	Date of Patent:	January 27, 2004
xxx.	Title:	Compounds and methods for stimulating .beta.-catenin mediated gene expression and differentiation
	Inventors:	**Orest W. Blaschuk**, Stephen Byers and Barbara J. Gour
	United States Patent Number:	6,706,685
	Date of Patent:	March 16, 2004
xxxi.	Title:	Compounds and methods for modulating claudin-mediated

		functions
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,723,700
	Date of Patent:	April 20, 2004
xxxii.	Title:	Compounds and methods for modulating claudin-mediated functions
	Inventors:	**Orest W. Blaschuk**, James Matthew Symonds and Barbara J. Gour
	United States Patent Number:	6,756,356
	Date of Patent:	June 29, 2004

Figure 1: Disruption of human umbilical vein endothelial cell (HUVEC) monolayers by treatment with cyclic peptide ADH142 (Ac-CDAEC-OH 1 mg / mL medium) for 24 hr

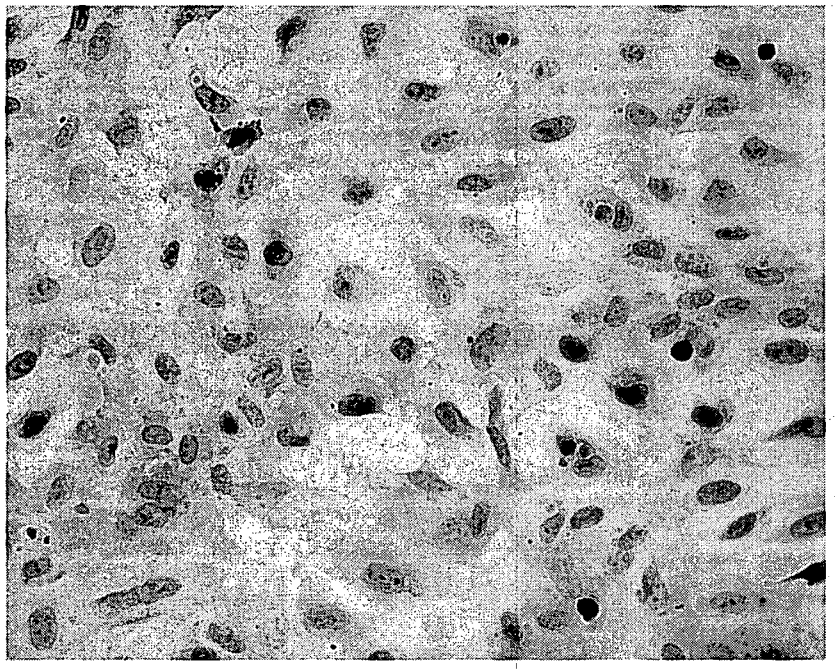


Control (medium only) 400x

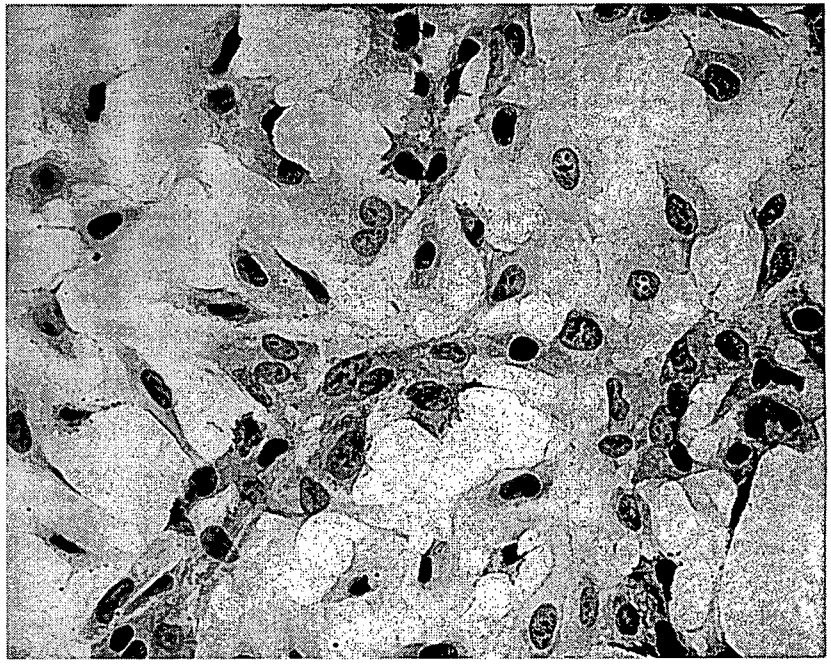


ADH142 1mg/ml 400x

Figure 2: Disruption of human umbilical vein endothelial cell (HUVEC) monolayers by treatment with cyclic peptide ADH191 (Ac-CDAEC-NH2 1 mg / mL medium) for 24 hr

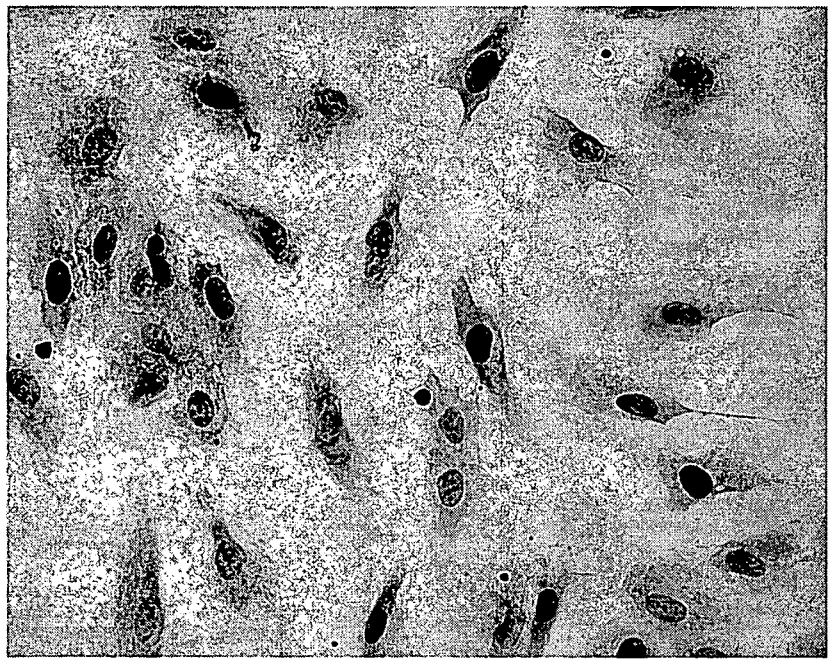


Control (medium only) 400x

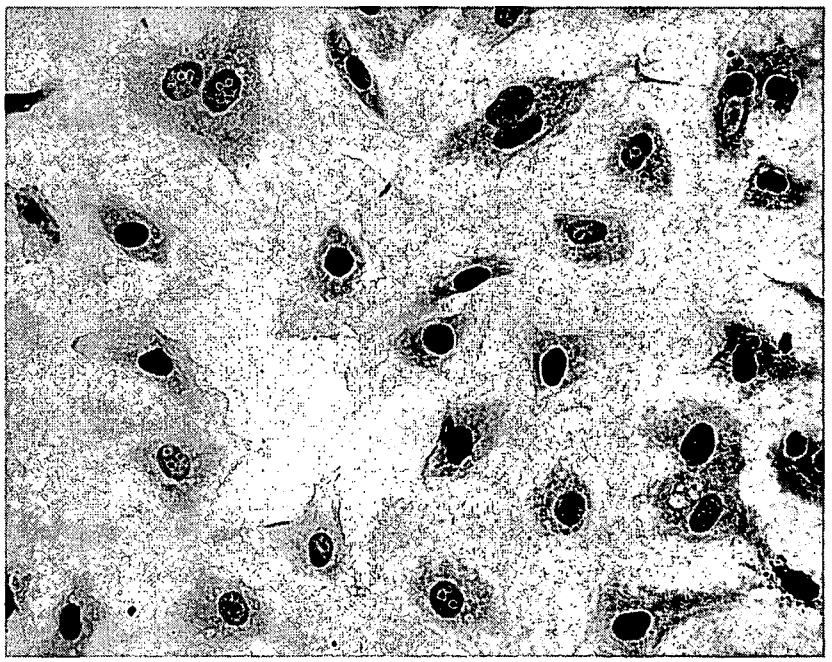


ADH191 1mg/ml 400x

Figure 3: Disruption of human microvessel endothelial cell (HMVEC) monolayers by treatment with cyclic peptide ADH142 (Ac-CDAEC-OH) (1 mg / mL medium) for 24 hr

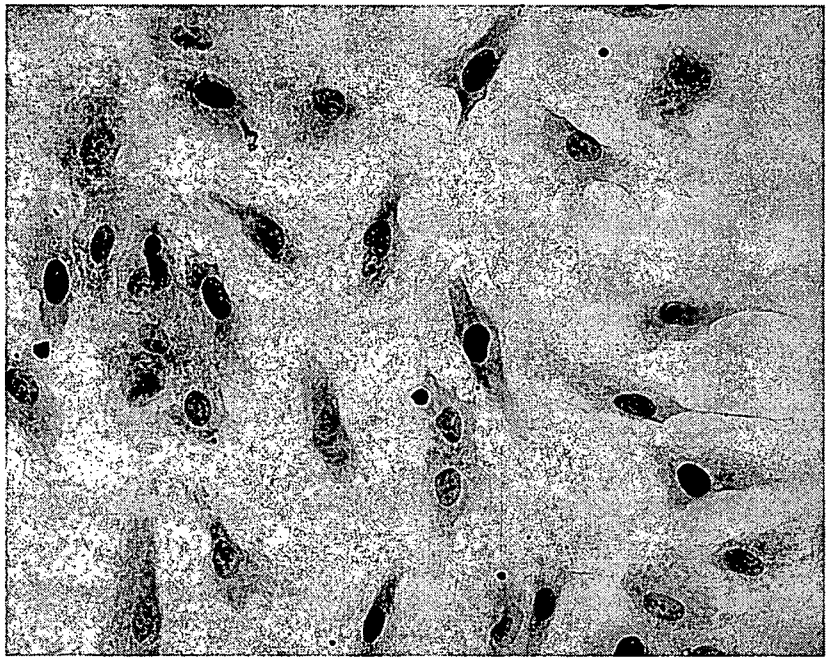


Control (medium only) 400x

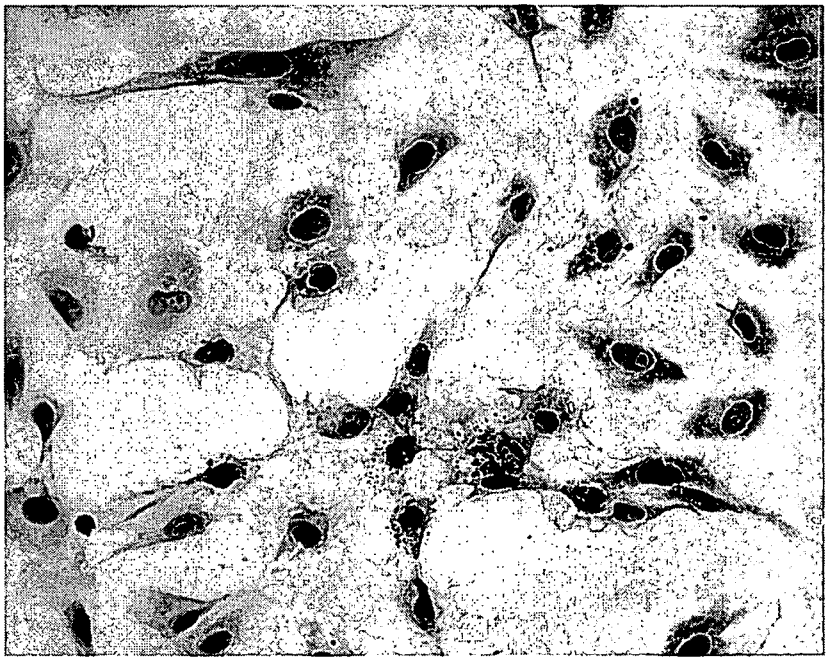


ADH142 1mg/ml 400x

Figure 4: Disruption of human microvessel endothelial cell (HMVEC) monolayers by treatment with cyclic peptide ADH191 (Ac-CDAEC-NH2) (1 mg / mL medium) for 24 hr



Control (medium only) 400x



ADH191 1mg/ml 400x